

The Odisha Gazette

EXTRAORDINARY
PUBLISHED BY AUTHORITY

No.1831, CUTTACK, THURSDAY, SEPTEMBER 26, 2024/ASWINA 4, 1946

HOUSING & URBAN DEVELOPMENT DEPARTMENT

NOTIFICATION

The 26th September, 2024

No.19469—HUD-REFM-MISC-0011/2024/HUD.— Government in Housing & Urban Development Department is implementing 24X7 water supply systems with Drink From Tap (DFT) quality water in many Urban Local Bodies (ULBs) in the State. Since provisions of DFT quality supply is stated to be scaled up to all ULBs in a phased manner , it is now felt necessary for notifying a water quality monitoring protocol to be followed by the WATCO and PHEO which would have specific parameters to be tested and the periodicity of the testing while providing the drinking water to the inhabitants of ULBs.

2. Whereas, the Bureau of Indian Standards (BIS) vide IS 10500:2012 and its subsequent amendments prescribes the testing parameters for assessing water quality, standards that must be met for making the water potable and prescribes the method of sampling and test for drinking water.

3. And, Whereas, the Central Public Health and Environment Engineering Organisation (CPHEEO) Manual provides comprehensive guidelines for management of 24X7 Pressured Water Supply System (24X7 PWSS) with drink from tap meeting drinking water quality standard IS. 10500:2012.

4. And, whereas, Government of Odisha vide Notification No. 5860/HUD., Dated the 11th March, 2024 had constituted a Technical Advisory Committee (TAC) for recommending drinking water quality standards to be followed and protocol for testing of samples for drinking water in all Urban Local Bodies of the State.

5. The Technical Advisory Committee has submitted its report recommending the water quality parameters to be tested at source of water

(both ground and surface), water treatment plants, distribution systems, sources other than piped water supply and during water related incidences along with periodicity of the tests and the laboratory which will carry out the tests for ensuring supply of safe drinking water in all urban local bodies of the State.

6. After careful consideration, the Government in Housing & Urban Development Department is pleased to notify that the drinking water supply in the ULBs of the State shall comply with the location specific parameters to be tested and the periodicity of the testing as per Tables 1-10 Schedule attached as **ANNEXURE-I** with the notification.

7. It shall come into force on such date as the State Government may notify separately.

By Order of the Governor
USHA PADHEE
Principal Secretary to Government

SCHEDULE FOR LOCATION SPECIFIC PARAMETERS TO BE TESTED AND THE PERIODICITY OF THE TESTING FOR IS : 10500 DRINKING WATER STANDARD

TABLE -1: TESTING OF SAMPLES AT SOURCE OF DRINKING WATER : RIVERS; LAKES: RESERVOIRS			
Parameters to be tested		Test to be carried out by	Periodicity of Test
Physical Parameters (6)	Colour, Odour, Temperature , pH. Turbidity, Total Dissolved Solid (TDS).	Regional Laboratory Total 25 Parameters	Four times/ year i.e., <ul style="list-style-type: none"> • January-March (Lean Flow) • April-June (Pre monsoon) • July- September (Monsoon) • October- December (Post Monsoon)
General Parameters (17)	Dissolved Oxygen, Total Alkalinity. Total Hardness, Ammonia, Iron, Nitrate (NO ₃), Fluoride , Chloride, Phosphate (PO ₄), Bio-Chemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Sodium, Potassium, Manganese, Calcium, Magnesium, Sulphate		
Bacteriological Parameters (2)	Fecal Coliform Total Coliform		

General Parameters (11)	Aluminium, Anionic detergent, Barium, Boron, Copper, Mineral, Oil, Phenolic Compound, Selenium, Silver, Sulphide, Zinc	Zonal Laboratory Total 43 Parameters	Two times/ year i.e., • April-June (pre monsoon) • July-September (Monsoon)
Bacteriological Paramaters (1)	Thermotolerant Bacteria		
Toxic Parameter (11)	Cd, CN, Pb, Hg, Molybednum (Mo), Ni, Polychlorinated Biphenyl, Poly Aromatic Hydrocarbons (PAH), Total Arsenic, Total Chromium, Uranium		
Radioactive Parameter (2)	Alpha Emitter Beta Emitter		
Pesticide Residue(18)	Alachlor, Atrazine, Aldrin/ Diedrin, Alpha HCH, Beta HCH, Butachlor, Chlorpyriphos. Delta HCH. 2,4-dichlorophenoxyasetic acid. DDT (a.p and p.p-Isomers of DDT, DDE and DDD), Endosulfan (alpha, beta and sulphate), Ethion, Gamma HCH(Lindane), Isoprotiron, Malathion, Methyl Parathion, Monocrotophos, Phorate		
Location specific parameters	As recommended by Health Dept. And any other Govt. Dept.		

Note :

1. In case any abnormality is observed , frequency of monitoring may be increased from quarterly to either monthly or fortnightly, to get a better trend of the contaminating parameter and to identify the source of contamination.
2. In case of lean flow rivers, the above testing is to be carried out once in every two months until there is flow in the river.
3. In case the Regional Laboratory is not able to carry out the 25 parameter due to any reasons the same can be carried out either by the Zonal Laboratory & State Laboratory.

**TABLE-2 : TESTING OF SAMPLES AT SOURCE OF WATER : GROUNDWATER
(PRODUCTION WELL/ BOREWELL/ TUBE WELL/ DUG WELL/ SHALLOW WELL)
(One time for Baseline Data)**

Parameters to be tested	Test to be carried by	Periodicity of Test
All relevant parameters as per IS 10500	Zonal Laboratory	Baseline Data for existing source and while selecting a new source

**TABLE-3 : TESTING OF SAMPLES AT SOURCE OF WATER : GROUNDWATER
(PRODUCTION WELL/ BOREWELL/ TUBE WELL/ DUG WELL/ SHALLOW WELL)**

Parameters to be tested		Test to be carried out by	Periodicity of Test
Physical Parameters (5)	Colour , Odour, pH, Turbidity, Total Dissolved Solid (TDS)	Regional Lab (Total 21 Parameters)	Two times/ year i.e., <ul style="list-style-type: none"> • April-June (pre monsoon) • October-December (Post Monsoon)
General Parameters (14)	Total Alkalinity, Total Hardness, Ammonia, Iron, Nitrate (NO ₃), Fluoride, Chloride, Phosphate (PO ₄), Chemical Oxygen Demand (cod), Sodium, Potassium, Calcium, Magnesium, Sulphate		
Bacteriological Parameters (2)	Fecal Coliform Total Coliform		

General Parameters (6)*	Copper, Phenolic Compound, Selenium, Silver, Sulphide, Zinc	Zonal Lanouatory	Two times/ year i.e., <ul style="list-style-type: none">• April-June (pre monsoon)• October-December (Post Monsoon)
Bacteriological Parameters (1)	Thermotolerant Bacteria	(Total 31 Parameters)	
Toxic Parameters (6)*	Cd. Hg. Ni. Arsenic, Lead, Total Chromium/ Hexavalent chromium		
Pesticide Residue (18)*	Alachlor, Atrazine Aldrin/ Dieldrin, Alpha HCH, Beta HCH, Butachlor, Chlorpyriphos, Delta HXH, 2.4-dichlorophenoxyasetic acid, DDT (a.p andp.p-Isomers of DDT, DDE and DDD), Endosulfan (alpha, beta and sulphate), Ethion, Gamma-HCH (Lindane), Isoproturon, Malathion, Methyl Parathion, Monocrotophos, Phorate		
Other location specific Parameters	As recommended by Health Dept. And any other Govt. Dept. Particularly fluorosis		

	<p>affected districts Nuapada, Nayagarh, Angul with respect to Fluoride and chronic kidney disease</p> <p>affected districts Dhenkanal, Cuttack, Sambalpur, Baragarh, Sundargarh, with respect to heavy metal likes Cadmium, Mercury, Lead.</p>		
*These Parameters are site specific, should be monitored based on Baseline data as per Table 2			

**TABLE-4:ONLINE MONITORING OF WATER
AT INLET AND OUTLET OF WATER TREATMENT PLANT**

Parameters to be tested	Test to be carried out at
Colour, pH, Turbidity (NTU), Electrical conductivity (EC)/Total Dissolved Solids (TDS), Free Residual chlorine(only at outlet) (5 parameters)	At the inlet raw water channel and at outlet of clarifloculator, at outlet of filter beds and at outlet of clear water pump house in the WTP through sensors

TABLE- 5 : WATER TREATMENT PLANT

Parameters to be tested		Test to be carried out by	Periodicity of Test
Physical Parameters(6)	<p>Inlet : pH, Turbidity, Total Alkalinity Outlet :Colour , Odour, Electrical Conductivity / Total Dissolved Solids (TDS)</p>	WTP laboratory at inlet and outlet (Total 8 Parameters)	Daily

General Parameter (1)	Free Residual Chlorine (only at outlet)		
Bacteriological Parameter (1)	Total Coliform/ Fecal Coliform		
Other Test	Jar test for pH. Total Alkalinity and Turbidity (Only at Inlet)		

General Parameter (7)	Chloride (as Cl), Nitrate (as NO ₃), Sulphate (as SO ₄) Chemical Oxygen Demand (COD) Ammonia (as Total Ammonia-N) Iron (as Fe) Aluminium (as Al)	Regional Laboratory (Total 09 parameters)	Once in a month
Bacteriological Parameters (1)	Faecal Coliforms (FC)		
Other Parameter (1)	Langelier Index (once in a year) Temperature, pH, TDS, Calcium, Total Alkalinity		

General Parameters (2)	Chloramine, TOC	Zonal Laboratory Total 06 parameters	Two times/ year i.e., • April-June (pre monsoon) • July-September (Monsoon)
Toxic Parameter (4)	Trihalomethane, (Bromoform, Dibromochloromethane, Bromodichloromethane, Chloroform)		

TABLE-6 : ONLINE MONITORING OF WATER AT ESR/UGR/OG R LEVEL

Parameters to be tested	Test to be carried out at	Remarks
Colour, pH, Turbidity (NTU), Electrical Conductivity (EC) / Total Dissolved Solids	ESR/UGR/OG R inlet and outlet through sensors	In the event of failure or absence of online monitoring system, the WTP Lab shall conduct these tests.

(TDS), Free Residual Chlorine (5 Parameters)		
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TABLE-7 : WATER DISTRIBUTION SYSTEM			
Parameters to be tested		Test to be carried out by	Periodicity of Test
General Parameter (08)	pH, Total Dissolved Solids (TDS), Turbidity (NTU), Free Residual Chlorine, Chemical Oxygen Demand, Nitrate (as NO ₃), Sulphate (as SO ₄), Ammonia (as Total Ammonia-N)	Regional Laboratory (Total 09 parameters)	Every day randomly selected 5-10 samples for each region with priority to contamination hot-spots*.
Bacteriological Parameters (01)	Faecal Coliform (FC)		
*Contamination hot-spots means place where there is recurrent incident of water contaminations in the distribution system such as slums overcrowded areas and areas with pipes laid along drains			

TABLE-8 : TESTING BY JAL SYSTEM	
Parameters to be tested	Periodicity of Test
Free Residual Chlorine, H ₂ S strip (2 parameters)	100 pair of samples per month as per H&UD. Notification No.6006/HUD, dated the 12th March, 2024 (copy enclosed <i>Annexure-IV</i>)
pH, Turbidity, (NTU), Electrical Conductivity (EC) / Total Dissolved Solids (TDS). (3 Parameters)	Each Jal Sathi will test water sample for three parameters at least once a week

TABLE-9: OTHER THAN PIPED WATER SUPPLY			
Parameters to be tested		Test to be carried out by	Periodicity of Test
General Parameter (07)	pH, Total Dissolved Solids (TDS),	Regional Laboratory (Total 8	<ul style="list-style-type: none"> Every month

	Turbidity (NTU), Nitrate (as NO ₃), Ammonia (as Total Ammonia-N). Fluoride (as F) Iron (as Fe)	parameters)	randomly selected 5-10 samples per operational zone to be done by Site Engineer. • During flood or any natural calamity immediate monitoring is to be done by Site Engineer at public and private sources
Bacteriological Parameters (01)	Faecal Coliform (FC)		

TABLE-10: TESTING DURING WATER RELATED INCIDENT

Parameters to be tested			Test to be carried out by	Periodicity of Test
General (04)	Parameter	pH, Total Dissolved Solids (TDS), Turbidity (NTU), Free Residual Chlorine.	Regional Laboratory (Total 6 parameters)	During water related incident monitoring to be carried out by Site Engineer at public and private sources
	Bacteriological Parameters (02)	Total Coliform (TC) Faecal Coliform (FC)		